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March 20, 1950

REPORT ON DEVELOPMENTS

IN THE

CAMPAIGN FOR THE ERADICATION OF

FOOT-AND-MOUTH DISEASE

IN MEXICO

NO. 22



Note: This report has been prepared on the basis of the best information available at the time of compilation but is subject to later revision. It covers the principal developments since the issuance of the 21st report of December 10, 1949.

### Progress of Program Measures

The Joint Mexican-United States Commission for the Eradication of Footand-Mouth Disease passed another milestone when the second round of vaccinations of susceptible animals within the quarantine zone was completed early in February. The Commission expects to finish third vaccinations by May 1, at which time the fourth round will be about 75% complete.

Year's end reports through 1949 show a cumulative total of 40,093,065 vaccinations. During January and February, 1950, another 7,985,760 animals were vaccinated, making a total of over 48 million vaccinations since mass vaccinations were begun.

Vaccine production is being maintained at satisfactory levels to carry out the requirements of the program. At the end of the year, the Commission had manufactured 42,324,000 doses of vaccine since production facilities were provided in Mexico in May, 1948. During January and February 1950, records show an additional 7,200,000 doses for a total of over 49 million.

Slaughter operations give an accurate indication of the existence of foot-and-mouth disease in the country since every pocket of active infection, recognized by constant and repeated inspections, is wiped out by accepted eradication methods. The total slaughter for 1949 was 8,009 actively infected and exposed animals. Of this number, 7,329 were slaughtered during the first six months of the year. During January, 1950, only 15 condemned animals were slaughtered. None were slaughtered in February.

Efficiency of quarantine and disinfection measures is pointed out by the fact that during the past year no re-infection of animals occurred on previously contaminated premises after disinfection and testing by Commission brigades. Outbreaks of active infection were prevented from spreading and completely eradicated.

# Type "O" Virus Declared Eradicated

The outbreak of foot-and-mouth disease caused by type "0" virus reported in Chicoloapan, State of Mexico, last October, was declared officially eradicated when the special quarantine was lifted on February 14.

The type "O" infection occurred on one ranch about 15 miles from Mexico City, and involved 269 animals. These animals were slaughtered October 24, 1949. The premises were cleaned, completely disinfected twice, and held under strict quarantine. Thirty days later susceptible test animals were introduced and kept on the grounds for about ninety days. During this time, animals in surrounding areas were inspected regularly. When none of the test animals became infected and no evidence of the disease was found in surrounding areas, the quarantine was lifted.

There are three known types of foot-and-mouth disease virus. Types "A" and "O" are most frequently present in European outbreaks of the disease. Type "C" occurs frequently in Mediterranean areas, and all three types are present in South America. With the exception of the one case cited above, all infection in Mexico since the current outbreak was discovered in 1946 has been from type "A" virus. Immunity built up against one type is not effective against exposure to another. Every possible effort was made to trace the origin of the type "O" virus in Chicoloapan, but the Commission was unable to discover the means of its introduction.

# Other Evidence of Active Infection

An infection of type "A" virus was reported in the State of Jalisco, December 21. Evidence indicated that the infection was several weeks old in some animals at the time it was first reported. A total of 73 animals involved in the outbreak were slaughtered, some of which were strays.

These circumstances illustrate the necessity for constant and repeated inspections of all susceptible animals as well as immediate investigation of suspicious herds.

No further outbreaks have been identified in any area since December.

#### Preparations Underway For New Phase of Program

The Joint Commission is preparing to carry out plans announced earlier to terminate mass vaccination as soon as it may be done with practical safety. The Commission expects to be approaching this point about May I when the third vaccination will be virtually complete and the fourth vaccination will have covered most of those areas in which the disease has been most concentrated in the past. However, the Commission will continue at least some vaccinations for several months.

In line with these plans vaccine production in Mexico will be halted as soon as there is enough vaccine available to complete the planned schedule, in addition to a stockpile of about 7,500,000 doses for use in emergencies.

Now more than ever, the special emphasis of the eradication program is being placed upon inspection. Inspection brigades are being increased and inspectors are redoubling their efforts. The utmost importance is placed upon vigilance in spotting any indication of active infection plus quick action in stamping it out through the accepted methods of quarantine, slaughter, disinfection and testing.

# Cannot Predict Border Opening

In response to many inquiries about opening the border to importation of cattle from Mexico in the near future, the Department calls attention to the provisions of the Tariff Act of 1930 which specifically prohibit the importation into the United States of any cattle, sheep, other domestic ruminants or swine and of fresh, chilled, or frozen beef, veal, mutton, lamb, or pork from any country where foot-and-mouth disease exists.

The Mexico-United States border cannot be reopened until a determination has been made by the Department that the virus causing the disease no longer exists in any part of Mexico. When the immunity built up by the mass vaccination has had time to wear off, it may be expected that sporadic outbreaks will occur. Therefore, consideration cannot be given to the opening of the border until a sufficiently long period of time has elapsed after the last known outbreak has been stamped out and thorough inspections have been made to determine that the disease actually no longer exists. Accordingly, the time when the border may be opened is so exceedingly indefinite that no forecast can reasonably be made. It can be said only that such action does not appear at all possible in the near future.

# Experiments With Vaccine Continue

Recent tests have indicated that it might be possible to advance the expiration date for use of vaccine to from 12 to 15 months after production. Heretofore, vaccine was not considered practicable for use unless it could be injected within 7 to 9 months after manufacture, because its potency had not been proved beyond that point. These tests are being continued in an effort to determine the lenth of time vaccine can be held in storage before it is used.

Also being continued are the intensive studies of techniques for propagating the virus of foot-and-mouth disease upon an artificial medium in the laboratory. Basically the procedure being investigated follows that developed originally in the Netherlands. Minced epithelium---or the outer skin-from the tongues of recently slaughtered normal cattle is placed in a synthetic nutrient fluid. The virus is added and allowed to incubate and multiply.

The goal of this work is to develop procedures for the preparation of vaccine from such artificially propagated virus. This would materially simplify vaccine production and make it less expensive.

# Canned Moxican Beef

Since the beginning of the program in August 1947 approximately 218 million pounds of canned beef products have been purchased in Northern Mexico. At the present time there are no purchase contracts in effect. Approximately 150 million pounds have been sold. The major portion of these purchases have gone to Bizone Germany, United Kingdom, International Refugee Organization, Italy, Austria, Trieste and other Western European countries. Stocks now on hand total approximately 68 million pounds.

# Meeting of Industry Advisory Committee

The Industry Advisory Committee on Foot-and-Mouth Disease met in Albuquerque, New Mexico on February 19 with officials of the Commission and the Bureau of Animal Industry. General Johnson described recent progress in the work in Mexico and Dr. Simms and members of his staff discussed other phases of the battle to keep foot-and-mouth disease out of the United States and the plans for additional research. Committee members attending the meeting were: Albert K. Mitchell of New Mexico, the Chairman, Mr. J. Elmer Brock of Wyoning, Mr. R. E. Boyle of California, Mr. E. Ray Cowden of Arizona, Dr. C. U. Duckworth of California, Mr. Fred Earwood of Texas, Mr. Horace H. Hening of New Mexico, Mr. Wayland Hopley of Iowa, Mr. W. S. Moscrip of Minnesota, Mr. Carlos E. Ronstadt of Arizona, and Mr. C. E. Weymouth of Texas.